

0053282

CASE NARRATIVE

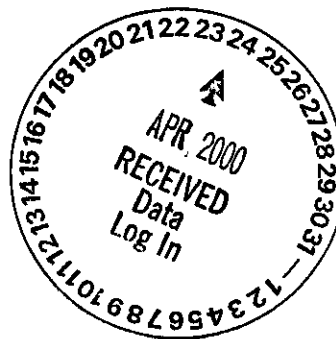
Bechtel Hanford Incorporated
3350 George Washington Way
Richland, Washington 99352

April 21, 2000

Attention: Joan Kessner

Project Number	:	33548
SAF	:	B99-018
SDG	:	W03113
Number of Samples	:	one (1)
Sample Matrix	:	Water
Data Deliverable	:	Summary
Date SDG Closed	:	March 22, 2000

RECEIVED
JUN 26 2000
EDMC



II. Introduction

On March 22, 2000, one (1) "water" sample was received by Quanterra, Richland and transferred to Quanterra, St. Louis for chemical analysis. The samples were received within temperature criteria. See the attached Sample Summary sheet for the client and lab ids for these samples.

III. Analytical Results/ Methodology

The analytical results for this report are presented by analytical test. Each set of data includes sample identification information, analytical results and the appropriate detection limits.

Analyses requested: pH - 150.1
 Sulfate - 375.4
 Chlorine (Total Residual) - 330.3
 VOA - 8260A (TCL)

Deviation from Request: There were no deviations.

IV. Definitions

The following codes are used to denote laboratory quality control samples and can be found in the data summary section of this report:

QCBK- Quality Control Blank, Method Blank
QCLCS- Quality Control Laboratory Control Sample, Blank Spike
MS- Matrix Spike.
DUP- Matrix Duplicate
MSD- Matrix Spike Duplicate.

Bechtel Hanford Incorporated
April 21, 2000
Project Number: 33548
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V. Comments

General:

The term "Detection Limit" used in the analytical data reports refers to either the lab's standard reporting limits or contractually required reporting limits, whichever is applicable.

Please refer to the attached cross-reference table for the standard preparation methods used at Quanterra, St. Louis.

VOA:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Spike Duplicate were analyzed with each preparation batch per the protocol for this analysis.

There were no comments or non-conformances associated with the 8260 Volatiles data.

Wet Chemistry:

A Laboratory Control Sample, Method Blank, Matrix Spike and Matrix Duplicate were analyzed with the Sulfate preparation batch per the protocol for this analysis. A duplicate was analyzed as QC for the pH and Residual Chlorine analyses.

There were no comments or non-conformances associated with the Wet Chemistry data.

I certify that this Data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature.

Reviewed and approved:

Marti Ward
St. Louis Project Manager

SAMPLE SUMMARY

F0C230220

<u>WO #</u>	<u>SAMPLE#</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
DA116	001	B0XR21	03/22/00	08:54

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

METHODS SUMMARY

F0C230220

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
pH (Electrometric)	MCAWW 150.1	MCAWW 150.1
Residual Chlorine 330.3	MCAWW 330.3	
Sulfate	MCAWW 375.4	MCAWW 375.4
Volatile Organics by GC/MS	SW846 8260A	SW846 5030/8260

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 3/23/00
Time: 12:56:48
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018
AMOUNT REC'D: 120P,250P,LP,3X40
STORAGE LOC: R4B,V1H
LOT COMMENTS: Hanford EDD and Package Format required
MATRIX: WATER
SAMPLE ID: BOXR21
QC PACKAGE: Special Report - see checklist
SAMPLE COMMENTS:
RUN A DUPLICATE ON PH,SULFATE,RES.CHLORINE.
Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0C230220-001
WORK ORDER: DA116
RECEIVING DATE: 3/22/00
SAMPLING DATE: 3/22/00
ANALYTICAL DUE DATE: 4/20/00N
REPORT DUE DATE: 5/08/00
PRIORITY: 29
SAMPLING TIME: 8:54
RECEIVING TIME: 10:15
SDG# : W03113

***** ANALYSIS *****	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A) PURGE AND TRAP - 5 mL purge STL: SW-846 8260A (I-15-MZ-01) DA116-1-01 Protocol: A QC Program: STANDARD TEST SET	06	3/23/00	0/00/00	4/05/00
pH - Aqueous (150.1) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-AJ-01) DA116-1-04 Protocol: A QC Program: STANDARD TEST SET	06	3/23/00	0/00/00	3/24/00
Chlorine, Residual (330.3) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-RD-01) DA116-1-07 Protocol: A QC Program: STANDARD TEST SET	06	3/23/00	0/00/00	3/23/00
Sulfate 375.4) NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION (I-88-UV-01) DA116-1-0A Protocol: A QC Program: STANDARD TEST SET	06	3/23/00	0/00/00	4/19/00

STL St. Louis

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 3/23/00
Time: 12:56:48
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018

QUOTE/SAR #: 33548
LAB ID: F-0C230220-001-D
WORK ORDER: DA116 MSD
RECEIVING DATE: 3/22/00
SAMPLING DATE: 3/22/00
ANALYTICAL DUE DATE: 4/20/00N
REPORT DUE DATE: 5/08/00
PRIORITY: 29

AMOUNT REC'D: 120P,250P,LP,3X40
STORAGE LOC: R4B,V1H

LOT COMMENTS: Hanford EDD and Package Format required

SAMPLING TIME: 8:54

MATRIX: WATER

RECEIVING TIME: 10:15

SAMPLE ID: B0XR21

QC PACKAGE: Special Report - see checklist

SDG# : W03113

SAMPLE COMMENTS:

RUN A DUPLICATE ON PH,SULFATE,RES.CHLORINE.

Beginning Depth: .00 Ending Depth: .00

***** ANALYSIS *****

	WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
Volatile Organics, GC/MS (8260A)	06	3/23/00	0/00/00	4/05/00
PURGE AND TRAP - 5 mL purge				
STL: SW-846 8260A				
(I-15-MZ-01) DA116-1-03 Protocol: A				
QC Program: STANDARD TEST SET				

STL St. Louis

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SEVERN TRENT LABORATORIES, INC
CLIENT ANALYSIS SUMMARY
STL St. Louis

Run Date: 3/23/00
Time: 12:56:48
User Id.: WILSONS

CLIENT: 127642 BECHTEL HANFORD, INC.
PROJECT MANAGER: MARTI WARD
PROJECT #: PERMIT MONITOR
REPORT TO: Bechtel Hanford, Inc.
P.O. NUMBER: MRC-SBB-A-19981
SITE: B99-018

AMOUNT REC'D: 120P,250P,LP,3X40
STORAGE LOC: R4B,V1H

LOT COMMENTS: Hanford EDD and Package Format required
MATRIX: WATER

SAMPLE ID: BOXR21

QC PACKAGE: Special Report - see checklist

SAMPLE COMMENTS:

RUN A DUPLICATE ON PH,SULFATE,RES.CHLORINE.

Beginning Depth: .00 Ending Depth: .00

QUOTE/SAR #: 33548
LAB ID: F-0C230220-001-S
WORK ORDER: DA116 MS
RECEIVING DATE: 3/22/00
SAMPLING DATE: 3/22/00
ANALYTICAL DUE DATE: 4/20/00N
REPORT DUE DATE: 5/08/00
PRIORITY: 29
SAMPLING TIME: 8:54
RECEIVING TIME: 10:15

SDG# : W03113

***** ANALYSIS *****

WRK LOC	REQUEST DATE	EXTRACTION EXP DATE	ANALYSIS EXP DATE
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Volatile Organics, GC/MS (8260A)

06	3/23/00	0/00/00	4/05/00
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PURGE AND TRAP - 5 mL purge

STL: SW-846 8260A

(I-15-MZ-01) DA116-1-02 Protocol: A QC Program: STANDARD TEST SET

Sulfate 375.4)

06	3/23/00	0/00/00	4/19/00
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NO SAMPLE PREPARATION PERFORMED / DIRECT INJECTION

(I-88-UV-01) DA116-1-0C Protocol: A QC Program: STANDARD TEST SET

car 199 2°

Bechtel Hanford Inc.		CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST						B99-018-35		Page 1 of 1	
Collector Pahlberg / T. Johansen		Company Contact D Blankenship		Telephone No. 373-5456		Project Coordinator TRENT, SJ		Price Code 7N		Data Turnaround 45 Days	
Project Designation 183N Backwash Discharge Pond - Permit Monitoring		Sampling Location 183N		SAF No. B99-018		Air Quality					
Ice Chest No. ERL91-053		Field Logbook No. EL 1424		COA 77BK27YA40		Method of Shipment Fed EX					
Shipped To Quanterra Incorporated St. Louis		Offsite Property No. A0000115		Bill of Lading/Bill No. 42357953-820077526031							
POSSIBLE SAMPLE HAZARDS/REMARKS NONE				Preservation	None	Cool 4C	None	HCl to pH <2 Cool 4C			
				Type of Container	P	P	P	aGs*			
				No. of Container(s)	1	1	1	3			
				Volume	125mL	250mL	1000mL	40mL			
Special Handling and/or Storage				pH - 150.1	Sulfate - 375.4	Chlorine (Total residual) - 330.3	VOA - 8260A (TCL)				
SAMPLE ANALYSIS W03113				-	✓	✓	✓	✓	= all record. 100 % full		
Sample No.	Matrix *	Sample Date	Sample Time								
B0XR21	Water	3/21/00	0854	X	X	X	X				
CHAIN OF POSSESSION				Sign/Print Names				SPECIAL INSTRUCTIONS			
Relinquished By T. Johansen 3/21/00		Date/Time		Received By R. Thoren 3/22/00		Date/Time		Sample originated in non-Rad Controlled area. < 2000 pCi/g. NO TA Required.			
Relinquished By R. Thoren 3/22/00		Date/Time		Received By FED EX 3/24/00		Date/Time					
Relinquished By FED EX		Date/Time		Received By STL 3/24/00		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time					
Relinquished By		Date/Time		Received By		Date/Time		Matrix *			
LABORATORY SECTION		Received By		Title		Date/Time		S-Soil SE-Sediment SO-Solid S-Sludge W-Water O-Oil A-Air DS-Drum Solids DL-Drum Liquids T-Tissue W/Wipe L-Liquid V-Vegetation X-Other			
FINAL SAMPLE DISPOSITION		Disposal Method		Disposed By		Date/Time					

183N Backwash Discharge Pond - Permit Monitoring 1999

SAF B99-018, Rev 2

Sampling Date: 3/22/00Time
0705

Comment

Prepared bottle set and calibrated instruments.

pH meter: ☒ Orion 290A S/N 008326 ☐ Other:Location: ☒ 3728 Bldg. ☐ Other:Buffers: (1) pH 7 Fisher Scientific Lot No. 996784-24 Exp 12/01(2) pH 10 Fisher Scientific Lot No. 994553-24 Exp 7/01

Other:

1st reading: 1.015 2nd reading: 1.111 Slope after calibration: 97.10

Comment(s)

Lot numbers on collection bottles used today are:

[Mark]	Vol (mL)	Type	Acid?	Lot #
	500 ml	aG / P	None	<u>7259050</u>
1000 ml	1 gal	aG / P	None	<u>8362020</u>
Lot numbers on sample bottles used today are:				
40	125 250 500 1000	aG / P	None HCl HNO ₃	<u>B9048010</u>
40	125 250 500 1000	aG / P	None HCl HNO ₃	<u>7259050</u>
40	125 250 500 1000	aG / P	None HCl HNO ₃	<u>7092040</u>
40	125 250 500 1000	aG / P	None HCl HNO ₃	<u>7251020</u>
40	125 250 500 1000	aG / P	None HCl HNO ₃	<u>9364010</u>
40	125 250 500 1000	aG / P	None HCl HNO ₃	
40	125 250 500 1000	aG / P	None HCl HNO ₃	
40	125 250 500 1000	aG / P	None HCl HNO ₃	

0835

Arrived at 183N water plant. Signed-in on visitor log.

Check in w/ plant operator. Mike Kerske, and verified the backwash needs to pump for 8 minutes prior to sampling. Proceeded to end of pipe.0845

Arrived at end of pipe (Backwash pond), & readied equipment for sampling.

0846

Contacted operator to begin pumping.

Water begins flowing from pipe. Allowed to flow for 8 min. before sampling.

Observations:

0854Water sample Box B21 collected by submerging collection containers in upwelling water. Volume for VOAs collected last/ filled respective sample containers first.

Additional samples/comments, if any:

0910

Packed prepared samples on wet ice, and departed sampling site. Signed out.

☒ Samples delivered to Quanterra, Richmond, St. Louis☐ Samples delivered for Field Screening at _____

Sampler PH = 6.50 Temp. = 11.2°C
 Operator PH = _____ Temp. = _____



000199

Condition Upon Receipt Variance Report St. Louis Laboratory

Lot No.: FOC230220

W03113

Client: Bechtel
 Quote No: Fed X 33548
 Shipper/No: Bohler 82007152.6031
 Condition/Variance (Check all that apply):

Date: 3.24.00 Time: 8:30 SW 3.24.00
 Initiated by: Sheila
 RFA/COC Numbers: B99-018-35

1. <input type="checkbox"/> Sample received broken/leaking.	8. <input type="checkbox"/> Sample ID on container does not match sample ID on paperwork. Explain: _____
2. <input type="checkbox"/> Sample received without proper preservative.	
<input type="checkbox"/> Cooler temperature not within 4°C ± 2°C	
Record temperature: _____	
<input type="checkbox"/> pH _____	9. <input type="checkbox"/> All coolers on airbill not received with shipment.
<input type="checkbox"/> other: _____	10. <input type="checkbox"/> Sample volume insufficient for analysis
3. <input type="checkbox"/> Sample received in improper container.	11. <input type="checkbox"/> Other (explain below)
4. <input type="checkbox"/> Sample received without proper paperwork. Explain: _____	
5. <input type="checkbox"/> Paperwork received without sample.	
6. <input type="checkbox"/> No sample ID on sample container.	
7. <input type="checkbox"/> Custody tape disturbed/broken/missing/not tamper evident type (circle all that apply).	

☒ No variances were noted during sample receipt. 20
☐ Cooler Temperature Upon Receipt in °C: _____

Temperature Variance Does Not Affect the Following Analyses: _____

Notes: _____

Corrective Action:

☐ Client's Name: _____ Informed verbally on: _____ By: _____
☐ Client's Name: _____ Informed in writing on: _____ By: _____
☐ Sample(s) processed "as is".
☐ Sample(s) on hold until: _____ If released, notify: _____

Sample Control Supervisor Review: (or designate) Sheila Date: 3.24.00
 Project Management Review: MWard Date: 3.23.00

SIGNED ORIGINAL MUST BE RETAINED IN THE PROJECT FILE

BECHTEL HANFORD, INC.

Client Sample ID: B0XR21

GC/MS Volatiles

Lot-Sample #...: F0C230220-001 Work Order #...: DA116101 Matrix.....: WATER
 Date Sampled...: 03/22/00 Date Received...: 03/22/00
 Prep Date.....: 03/30/00 Analysis Date...: 03/30/00
 Prep Batch #...: 0091142
 Dilution Factor: 1 Method.....: SW846 8260A

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Chloromethane	ND	10	ug/L	1.6
Vinyl chloride	ND	10	ug/L	4.1
Bromomethane	ND	10	ug/L	2.0
Chloroethane	ND	10	ug/L	2.3
Acetone	ND	20	ug/L	6.9
1,1-Dichloroethene	ND	5.0	ug/L	2.2
Methylene chloride	ND	5.0	ug/L	1.8
Carbon disulfide	ND	5.0	ug/L	2.1
1,1-Dichloroethane	ND	5.0	ug/L	1.2
2-Butanone	ND	20	ug/L	6.8
1,2-Dichloroethene (total)	ND	5.0	ug/L	2.7
Chloroform	18	5.0	ug/L	1.5
1,1,1-Trichloroethane	ND	5.0	ug/L	1.3
Carbon tetrachloride	ND	5.0	ug/L	1.3
1,2-Dichloroethane	ND	5.0	ug/L	1.6
Benzene	ND	5.0	ug/L	1.9
Trichloroethene	ND	5.0	ug/L	1.8
1,2-Dichloropropane	ND	5.0	ug/L	1.7
Bromodichloromethane	ND	5.0	ug/L	2.7
4-Methyl-2-pentanone	ND	20	ug/L	3.5
cis-1,3-Dichloropropene	ND	5.0	ug/L	2.0
Toluene	ND	5.0	ug/L	1.6
trans-1,3-Dichloropropene	ND	5.0	ug/L	2.5
1,1,2-Trichloroethane	ND	5.0	ug/L	3.6
2-Hexanone	ND	20	ug/L	4.6
Tetrachloroethene	ND	5.0	ug/L	2.7
Dibromochloromethane	ND	5.0	ug/L	3.2
Chlorobenzene	ND	5.0	ug/L	2.8
Ethylbenzene	ND	5.0	ug/L	2.4
Xylenes (total)	ND	10	ug/L	6.6
Styrene	ND	5.0	ug/L	3.0
Bromoform	ND	5.0	ug/L	3.1
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	3.4
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
4-Bromofluorobenzene	87	(71 - 118)		
Toluene-d8	104	(78 - 124)		
Dibromofluoromethane	99	(77 - 138)		

STL St. Louis

BECHTEL HANFORD, INC.

BOXR21

GC/MS Volatiles

Lot-Sample #: F0C230220-001

Work Order #: DA116101

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: F0C230220 Work Order #...: DA116102-MS Matrix.....: WATER
 MS Lot-Sample #: F0C230220-001 DA116103-MSD
 Date Sampled...: 03/22/00 Date Received...: 03/22/00
 Prep Date.....: 03/30/00 Analysis Date...: 03/30/00
 Prep Batch #...: 0091142
 Dilution Factor: 1

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
1,1-Dichloroethene	ND	50.0	52.4	ug/L	105		SW846 8260A
	ND	50.0	53.3	ug/L	107	1.7	SW846 8260A
Benzene	ND	50.0	51.2	ug/L	102		SW846 8260A
	ND	50.0	53.0	ug/L	106	3.5	SW846 8260A
Trichloroethene	ND	50.0	47.6	ug/L	95		SW846 8260A
	ND	50.0	46.6	ug/L	93	2.1	SW846 8260A
Toluene	ND	50.0	52.0	ug/L	104		SW846 8260A
	ND	50.0	51.3	ug/L	103	1.3	SW846 8260A
Chlorobenzene	ND	50.0	55.0	ug/L	110		SW846 8260A
	ND	50.0	57.2	ug/L	114	3.9	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	89	(71 - 118)
	81	(71 - 118)
Toluene-d8	103	(78 - 124)
	102	(78 - 124)
Dibromofluoromethane	101	(77 - 138)
	97	(77 - 138)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: F0C230220
 MB Lot-Sample #: F0C310000-142

Work Order #....: DA9VK101

Matrix.....: WATER

Analysis Date...: 03/30/00
 Dilution Factor: 1

Prep Date.....: 03/30/00
 Prep Batch #....: 0091142

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Chloromethane	ND	10	ug/L	SW846 8260A
Vinyl chloride	ND	10	ug/L	SW846 8260A
Bromomethane	ND	10	ug/L	SW846 8260A
Chloroethane	ND	10	ug/L	SW846 8260A
Acetone	ND	20	ug/L	SW846 8260A
1,1-Dichloroethene	ND	5.0	ug/L	SW846 8260A
Methylene chloride	ND	5.0	ug/L	SW846 8260A
Carbon disulfide	ND	5.0	ug/L	SW846 8260A
1,1-Dichloroethane	ND	5.0	ug/L	SW846 8260A
2-Butanone	ND	20	ug/L	SW846 8260A
1,2-Dichloroethene (total)	ND	5.0	ug/L	SW846 8260A
Chloroform	ND	5.0	ug/L	SW846 8260A
1,1,1-Trichloroethane	ND	5.0	ug/L	SW846 8260A
Carbon tetrachloride	ND	5.0	ug/L	SW846 8260A
1,2-Dichloroethane	ND	5.0	ug/L	SW846 8260A
Benzene	ND	5.0	ug/L	SW846 8260A
Trichloroethene	ND	5.0	ug/L	SW846 8260A
1,2-Dichloropropane	ND	5.0	ug/L	SW846 8260A
Bromodichloromethane	ND	5.0	ug/L	SW846 8260A
4-Methyl-2-pentanone	ND	20	ug/L	SW846 8260A
cis-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
Toluene	ND	5.0	ug/L	SW846 8260A
trans-1,3-Dichloropropene	ND	5.0	ug/L	SW846 8260A
1,1,2-Trichloroethane	ND	5.0	ug/L	SW846 8260A
2-Hexanone	ND	20	ug/L	SW846 8260A
Tetrachloroethene	ND	5.0	ug/L	SW846 8260A
Dibromochloromethane	ND	5.0	ug/L	SW846 8260A
Chlorobenzene	ND	5.0	ug/L	SW846 8260A
Ethylbenzene	ND	5.0	ug/L	SW846 8260A
Xylenes (total)	ND	10	ug/L	SW846 8260A
Styrene	ND	5.0	ug/L	SW846 8260A
Bromoform	ND	5.0	ug/L	SW846 8260A
1,1,2,2-Tetrachloroethane	ND	5.0	ug/L	SW846 8260A

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
4-Bromofluorobenzene	78	(71 - 118)
Toluene-d8	103	(78 - 124)
Dibromofluoromethane	96	(77 - 138)

(Continued on next page)

STL St. Louis

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: F0C230220

Work Order #...: DA9VK101

Matrix.....: WATER

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

BECHTEL HANFORD, INC.

Method Blank Report

GC/MS Volatiles

Lot-Sample #: F0C310000-142 B Work Order #: DA9VK101

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
None				ug/L

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: F0C230220 Work Order #...: DA9VK102 Matrix.....: WATER
LCS Lot-Sample#: F0C310000-142
Prep Date.....: 03/30/00 Analysis Date...: 03/30/00
Prep Batch #...: 0091142
Dilution Factor: 1

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCENT RECOVERY</u>	<u>METHOD</u>
1,1-Dichloroethene	50.0	54.6	ug/L	109	SW846 8260A
Benzene	50.0	53.5	ug/L	107	SW846 8260A
Trichloroethene	50.0	49.9	ug/L	100	SW846 8260A
Toluene	50.0	50.0	ug/L	100	SW846 8260A
Chlorobenzene	50.0	53.4	ug/L	107	SW846 8260A

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
4-Bromofluorobenzene	85	(71 - 118)
Toluene-d8	99	(78 - 124)
Dibromofluoromethane	104	(77 - 138)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

BECOTEL HANFORD, INC.

Client Sample ID: B0XR21

General Chemistry

Lot-Sample #...: F0C230220-001
Date Sampled...: 03/22/00Work Order #...: DA116
Date Received...: 03/22/00

Matrix.....: WATER

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
pH (liquid)	7.3		No Units	MCAWW 150.1	03/28-03/30/00	0088382
			Dilution Factor: 1	MDL.....: 0.010		
Sulfate	20.3	5.0	mg/L	MCAWW 375.4	04/05/00	0096340
			Dilution Factor: 1	MDL.....: 0.90		
Total Residual Chlorine	0.10 <	0.10	mg/L	MCAWW 330.3	04/20/00	0111370
			Dilution Factor: 1	MDL.....: 0.089		

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: F0C230220

Work Order #...: DA116-SMP
DA116-DUP

Matrix.....: WATER

Date Sampled...: 03/22/00

Date Received...: 03/22/00

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE RESULT</u>	<u>UNITS</u>	<u>RPD</u>	<u>RPD LIMIT</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)						SD Lot-Sample #:	FOC230220-001	
7.3		7.4	No Units	0.54	(0-20)	MCAWW 150.1	03/28-03/30/00	0088382
			Dilution Factor: 1					

Total Residual Chlorine					SD Lot-Sample #: F0C230220-001		
0.10 <	0.10 <	mg/L	0.0	(0-20)	MCAWW 330.3	04/20/00	0111370
Dilution Factor: 1							

Sulfate					SD Lot-Sample #: F0C230220-001
20.3	20.7	mg/L	1.9	(0-20)	MCAWW 375.4 04/05/00 0096340
Dilution Factor: 1					

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: F0C230220

Matrix.....: WATER

Date Sampled...: 03/22/00

Date Received...: 03/22/00

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Sulfate	20.3	25.0	40.5	mg/L	81	MCAWW 375.4	04/05/00	0096340
Work Order #...: DA11610C MS Lot-Sample #: F0C230220-001								
Dilution Factor: 1								

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: F0C230220

Matrix.....: WATER

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	6.2	Work Order #: DA91K101	No Units	MB Lot-Sample #: F0C280000-382	03/28-03/30/00	0088382
		Dilution Factor: 1		MCAWW 150.1		
Sulfate	ND	Work Order #: DAH75101	5.0 mg/L	MB Lot-Sample #: F0D050000-340	04/05/00	0096340
		Dilution Factor: 1		MCAWW 375.4		
Total Residual Chlorine	0.10 <	Work Order #: DC821101	0.10 mg/L	MB Lot-Sample #: F0D200000-370	04/20/00	0111370
		Dilution Factor: 1		MCAWW 330.3		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #....: F0C230220

Matrix.....: WATER

<u>PARAMETER</u>	<u>SPIKE AMOUNT</u>	<u>MEASURED AMOUNT</u>	<u>UNITS</u>	<u>PERCNT RECVRY</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Sulfate	30.0	30.1	mg/L	100	MCAWW 375.4	04/05/00	0096340
				Dilution Factor: 1			
Total Residual Chlorine	7.13	7.30	mg/L	102	MCAWW 330.3	04/20/00	0111370
				Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.